



Working with
Farmers to
Protect our
Water



The Source Water Assessment and Protection Program (SWAP)

A Guide for Public Water Suppliers



How does SWAP affect Farmers?

In the Massachusetts Source Water Assessment and Protection Program, the Department of Environmental Protection (DEP) has ranked pesticide storage or use, manure spreading or storage, livestock operations, and dairy farms as high potential threats of contamination to drinking water supplies. Fertilizer storage and use, and composting facilities are ranked as moderate potential threats.

Many of these activities directly impact farm businesses in some way.

What does the SWAP report mean for farms in your watershed?

Most public water suppliers have received a source water report for their public water supply, which was prepared by the SWAP program. This SWAP report will indicate all potential sources of contamination to the water supply (agricultural and non-agricultural). The report will show how many of these potential sources of pollution are located in the water protection area for that specific public water supply. Farms will not be listed by name, but rather by type of land use and location in the water protection zones.

Water suppliers are expected to more fully investigate potential sources of contamination identified in the SWAP report. Where farms have been identified, the water supplier needs to know what activities occur on the farm that could potentially contaminate the water supply.

C A S E S T U D Y

Agricultural Environmental Enhancement Program

Description of Operation:

This second-generation Franklin County dairy farm milks approximately 70 cows, while farming a total of 425 acres. The farmer does custom cropping to provide additional income to the farm.

Issue Addressed:

The farmer wanted to address a silage and barnyard runoff issue. The runoff from the “high-traffic” area where the cows frequently walk between the pasture and barn was constantly muddy and hard to get around in. The addition of silage juice in the barnyard area due to a poor silage storage system caused an even larger problem.



Photo taken by Susan Phinney

Solution:

The farmer sought financial and technical assistance to fix the runoff issues. Applying for and receiving the help of the Agricultural Environmental Enhancement Program (AEEP) from the Massachusetts Department of Agricultural Resources (MA DAR) was the solution to this problem. Concrete blocks were used to construct a bunker silo to store silage and prevent juices from running into the barnyard. Gravel was laid to prepare a base and asphalt was put on top of that in the “high-traffic” area. This enabled all runoff to be directed to a grassy filter strip keeping the barnyard dry and manageable.

Cost of Project:

Through this cost share program, the farmer paid for 43% of the project by doing the work himself and using his own equipment and fuel. The AEEP program paid for the concrete blocks, gravel and asphalt, which totaled approximately \$12,000 and USDA contributed 21%.

Benefits:

The farmer is very happy with the results of the barnyard management improvements project and says that there is less “wear and tear” on cows and equipment because there is almost no mud. In one year, this project has saved the farmer \$3600 in labor, \$1500 in feed losses and \$7000 in animal losses. The farmer feels it makes his day less stressful and even reduces the chance of spreading disease through contaminated feed.

Communication is Key!

It is very important to keep the lines of communication open with the farmer to ensure that the public water supply is being protected. Farmers understand the importance of being good land stewards. If they did not, their land would no longer be fertile or productive. Farmers have pride in their operations. Most are usually willing to take reasonable steps to decrease the potential for water supply contamination. However, there are a few that need to do more to ensure drinking water protection.

Farmers as Partners.

Farmers understand that they do have a potential impact on the public water supply and many farmers have taken the initiative to be involved with voluntary cost-sharing programs so they can help protect the environment.

Are the Farmers in your watershed doing their part?

Many farmers are taking the right steps to protect our water resources. Evidence of a proactive, insightful farmer include:

1. Having a Comprehensive Farm Management Plan (Farm Plan).

Definition: a strategy that encompasses the whole farm operation to prevent the degradation of resources (soil, water, air, plant and animal) and to ensure their sustained use and productivity, while considering the client's economic and social needs.

- If the farmer is currently working with the county USDA NRCS (United States Department of Agriculture Natural Resources Conservation Service) office he/she must have a Farm Plan.
- If the farmer does not work with the USDA, he/she can develop a Farm Plan by completing the worksheets located in the "On-Farm Strategies to Protect Water Quality: An Assessment and Planning Tool for Best Management Practices." This publication can be obtained from the Department of Agricultural Resources at 617-626-1700.

2. Utilizing and Installing Best Management Practices (BMPs).

Definition: accepted agricultural practices that are used to protect and improve surface water and groundwater quality and other natural resources that may be on the land.

■ Fertilizer Storage and Use Concerns:

- Are there regular soil tests to determine the amount of fertilizer needed for a particular crop?
- Is there a buffer strip or grassy area between edges of fields, waterways and wetlands?
- Does the farm have a Nutrient Management Plan?
- Are good records kept of fertilizer applications?



Photo taken by Robin Paris

■ Pesticide Storage and Use Concerns:

- Are good records kept of pesticide applications?
- Does the farm have a Pest Management Plan?
- Is there a buffer strip or grassy area between edges of fields, waterways and wetlands?
- Does the farm have an adequate pesticide mixing, loading and storage area?

■ Manure Storage and Use Concerns:

- Does manure spreading cease when the ground is frozen?
- Are animals fenced out of rivers and streams?
- Are manure resources composted?
- Are good records kept of manure applications?
- Are there regular soil tests to determine the amount of manure needed on a particular field for a particular crop?

■ Sedimentation and Erosion Control Concerns:

- Is the farm using contour farming, strip cropping, or planting cover crops?
- Is there a buffer strip or grassy area between edges of fields, waterways and wetlands?
- Are No-Till or Minimum-Till practices utilized?

For clarification, definitions or more information on any of the topics above please refer to the “On-Farm Strategies to Protect Water Quality”. This publication can be obtained from the MA Department of Agricultural Resources (MA DAR) at 617-626-1700 or found in the SWAP Agricultural Reference Guide for Public Water Suppliers. The guide can also be obtained from MA DAR.

C A S E S T U D Y

Agricultural Environmental Enhancement Program

Description of Operation:

This Worcester County family farm produces a variety of fruits and vegetables on 40 of the farm’s 100 acres.

Issue Addressed:

The farmers were concerned with how they mixed, loaded and stored pesticides and the potential impact it may have on the environment. One of the farmers had seen a pesticide storage shed in New Hampshire and thought it would be something useful to have on their farm.

Solution:

The farmers looked to the Agricultural Environmental Enhancement Program (AEEP) for technical and financial assistance through the Department of Agricultural Resources (MA DAR). It was decided a pesticide storage shed would be built and a covered mixing and loading pad would be constructed right next to it.

Cost of Project:

Through this cost share program the farmers were able to get 24% of the cost paid for by MA DAR. The USDA contributed 43% and the farmers had to contribute 33% on their own. MA DAR paid for most of the materials, USDA paid for the

excavating of the building and shed as well as some of the materials and the farmers paid for labor and remaining materials.

Benefits:

The farmers see environmental as well as economic improvements due to participating in the AEEP program. Nearly 15 hours of labor are saved per spraying season because all the equipment needed to prepare for spraying is now in one location. An additional benefit is the safety factor that the facility brings to the operation. All chemicals are handled and stored properly under lock and key, which makes it safer for employees, customers and the environment. The farmers also stated that this program gave them the initiative to make these improvements, which otherwise would not have occurred without MA DAR’s assistance.



Photo taken by Angie Moschini

Where can a Farmer get financial or technical help?

Massachusetts Department of Agricultural Resources (MA DAR)

Agricultural Environmental Enhancement Program:

- The Massachusetts Department of Agricultural Resources' Agricultural Environmental Enhancement Program (AEEP) provides funding to farmers to install a variety of water quality protection practices. Eligible practices include the installation of buffers, animal waste systems, pesticide storage facilities, fencing, culverts, seed and gutters. All farmers who actively farm five acres or more of land, which could potentially impact a water resource, are eligible. Contact the MA DAR at 617-626-1700 or on the web at: www.mass.gov/agr.

Farm Viability Enhancement Program:

- The purpose of the Farm Viability Enhancement Program is to improve the economic bottom line and environmental integrity of participating farms through the development and implementation of Farm Viability Plans. These comprehensive, yet focused farm plans, which are to be developed by teams comprised of farmers and other agricultural, economic and environmental consultants, will be aimed at suggesting ways for farmers to increase their on-farm income through such methods as improved management practices, diversification, direct marketing, value-added initiatives and agritourism. In addition, the Plans will make recommendations concerning environmental and resource conservation concerns on participating farms. Contact the MA DAR at 617-626-1700 or on the web at: www.mass.gov/agr.



Photo taken by Diane Pettit

Pesticide Bureau:

- The Pesticide Bureau in the Division of Regulatory Services of the Department of Agricultural Resources carries out the day-to-day responsibilities of regulating pesticides. Other major function of the Bureau include: Licensing pesticide applicators, product regulation, Integrated Pest Management, carrying out the Children's Protection Act of 2000, consumer information bulletins as well as pesticide regulation. Contact the Pesticide Bureau at 617-626-1700 or on the web at: www.mass.gov/agr/pesticides/.

United States Department of Agriculture

Farm Service Agency (FSA):

- Stabilizing farm income, helping farmers conserve land and water resources, providing credit to new or disadvantaged farmers and ranchers, and helping farm operations recover from the effects of disaster are the missions of the U.S. Department of Agriculture's Farm Service Agency (FSA). Call the State Office at 413-253-4500 or check the web at: www.fsa.usda.gov/ma/.

Natural Resources Conservation Service (NRCS):

- When providing assistance, NRCS focuses on the sound use and management of soil, water, air, plant and animal resources. NRCS helps clients manage their resources in a way that prevents resource degradation, ensures sustainability, allows for productivity and respects the client's needs. Conservation planning can make improvements to livestock operations, crop production, soil quality, water quality, hayland, forestland and wildlife habitats. The process also integrates ecological and economic considerations in order to address private and public concerns. Call the State Office at 413-253-4350 or check the web at: www.ma.nrcs.usda.gov/.

America's Clean Water Foundation

On-Farm Assessment & Environmental Review (OFAER):

- OFAER is a program that can help livestock producers address environmental concerns and maximize their operational efficiency. The program provides animal producers with a third-party, non-regulatory assessment of water quality, pest and odor risks and other environmental challenges at the production site free of charge. The assessment team identifies strengths and risks of a particular facility and provides suggestions on any actual or potential environmental opportunity areas they observe. For more information contact America's Clean Water Foundation at 202-898-0312 or on the web: www.acwf.org/.

For More Information:

To learn more about SWAP, how this program can affect farm businesses and how to understand and work with farmers more effectively, please contact the Department of Agricultural Resources to obtain a copy of the *Massachusetts Source Water Assessment and Protection (SWAP) Program Agricultural Reference Guide for Public Water Suppliers*.

Resources:

Massachusetts Department of Agricultural Resources

251 Causeway Street, Suite 500
Boston, MA 02114
Phone: 617-626-1700
Fax: 617-626-1850
www.mass.gov/agr

Massachusetts Department of Environmental Protection Source Water Protection Program

One Winter Street
Boston, MA 02108
617-556-1157
www.state.ma.us/dep/brp/dws/dwspubs.htm

University of Massachusetts

- UMASS Soil and Plant Tissue Testing Laboratory
West Experiment Station
University of Massachusetts
Amherst, MA 01003-8010
413-545-2311
www.umass.edu/plsoils/soiltest
- UMASS Extension
Agriculture and Landscape Program
University of Massachusetts
Amherst, MA 01003
413-545-0111
www.umass.edu/agland/

America's Clean Water Foundation

- On-Farm Assessment & Environmental Review
750 First Street, NE, Suite 1030
Washington, DC 20002
Phone: 202-898-0908
Fax: 202-898-0977
www.acwf.org/

Northeast Rural Water Association

187 St. Paul Street
Burlington, VT 05401-4689
For MA info: 800-556-3792 ext. 324
www.neruralwater.org/

United States Department of Agriculture

- Natural Resources Conservation Service (NRCS)
451 West St.
Amherst, MA 01002
413-253-4350
www.ma.nrcs.usda.gov
- Farm Service Agency (FSA)
445 West St.
Amherst, MA 01002
413-253-4500
www.fsa.usda.gov/ma/



Photo taken by Angie Moschini

Cover photos courtesy of:
upper left, right, and lower right: Diane Petit
lower left: Kimberley Williams

This project has been financed with Federal Funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (the Department) under the Safe Drinking Water Act State Revolving Loan Fund Set-aside Grant. The contents do not necessarily reflect the views and policies of EPA or the Department, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

Produced in 2004